

2005-2006 California Integrated Waste Management Board ANNUAL REPORT

Introduction

Once again, California has demonstrated great growth and innovation when it comes to protecting our environment. We witnessed progress toward the goal of a Zero Waste California through the enactment of statewide programs and a behavioral change by our residents, and we made great strides toward achieving the goals set in AB 939.

Since 1990, the California Integrated Waste Management Board has been responsible for, among other things, overseeing the permitting of solid waste and recycling facilities, the management of used oil and tires, and the waste diversion mandate for all jurisdictions within the state. That mandate directed all California cities and counties to divert a minimum of 50 percent of their waste from landfills beginning in the year 2000. The Board continues to sustain the State's diversion efforts, thereby preserving a healthy environment for all Californians.

The commitment from the local jurisdictions to achieve this goal has been outstanding, and the success to date has set the standard from which other states will follow. We should be proud of our accomplishments over the last year, and we look forward to great achievements in the future.

50 Percent Achievement

2006 marked a milestone not only for the Board but for California as we achieved 52 percent waste reduction (using 2005 numbers). This accomplishment met the mandate for AB 939 and brought national and global attention to the work we do every day here at the CIWMB. The Board marked this accomplishment with a series of events across the state. The news was well received by stakeholders, environmental groups, and public officials. Congratulations to all for this tremendous accomplishment.

Emerging Technologies

The Board sponsored the Emerging Technology Forum on April 17-18, 2006 in Sacramento. There were approximately 160 participants, including speakers from as far away as New Zealand, Germany, and Israel who spoke about operating facilities throughout the world. The keynote speaker was Dr. Helmut L. Schnurer, former head of German Federal Ministry for the Environment. Dr. Schnurer talked about German and European waste management philosophy and the shift from waste disposal to sustainable resource recovery to minimize landfilling.

Later in 2006, Board Chair Margo Reid-Brown was invited by the London Business Conferences Limited to speak at the Global Waste Strategies Summit held on Dec. 11-12 in London. She talked about California's efforts on dealing with waste management issues, alternative energy, emerging technologies, and greenhouse gas reduction efforts. There were representatives from New York City, Netherlands, Sweden, Germany, Holland, and the United Kingdom who spoke about their strategies to increase recycling, reduce waste, and produce renewable energy.

Office of Education and the Environment

2006 saw significant growth in another great program that will help in our overall mission. Our Office of Education continued to work towards meeting the mandates of AB 1548, now referred to as the Education and the Environment Initiative. Dr. Gerald Lieberman was hired to assist in the development of an EEI Curriculum for grades K-12. The OEE also contracted with the National Geographic Society to provide pictures, posters, maps, and other graphics to illustrate this curriculum. During the summer,

OEE held 18 EPA-sponsored workshops throughout California for Non-Governmental Agencies, and taught the benefits of aligning various curricula with the CIWMB-approved Environmental Principles and Concepts. Additionally, the OEE held workshops to train professional curriculum writers in drafting units and lessons plans for grades K-6. The OEE staff has met with many California teachers, principals, and superintendents in an effort to recruit school districts to test the units once they are completed in 2007.

State Agency Diversion Rate/Reviews

In 2006, annual reports for reporting year 2005 were received from all 406 State agencies and facilities. The CIWMB, at the December Board meeting, found that 15 agencies and facilities had not shown that a 50 percent diversion mandate had been achieved as required by Public Resources Code, Section 42921. Having made this finding, CIWMB staff was directed to work with the non-compliant agencies to identify opportunities to increase overall diversion. Additionally, the CIWMB developed a letter to the Legislature and Governor reporting the waste diversion noncompliance by the 15 agencies and facilities.

Through the collaborative efforts of all the reporting State agencies and facilities in 2005, a total of over 860,000 tons of materials, or 77 percent of all the waste generated, was diverted from California's landfills.

New Technologies

Conversion Technologies

The Board has continued its research into conversion technologies and whether these technologies can be used in an environmentally sound manner. To that end, the Board entered into an agreement with the Santa Barbara County Air Pollution Control District (APCD) to acquire emissions data on gasification and acid hydrolysis/fermentation technologies that process post-recycled municipal solid waste. The APCD will oversee all testing and analysis to ensure impartiality. The data acquired from these technologies will fill a data gap identified in the Board's Conversion Technology Report to the Legislature.

The Board funded research by the University of California, Davis (UCD) to determine the technical performance of UC Davis' anaerobic phased solids digester system using a mix of municipally derived materials, and Materials Recovery Facility (MRF) residuals destined for landfill. UCD will survey the literature to assess anaerobic digestion technology that is commercially available or nearing commercial application. UCD will also conduct laboratory bench analysis of feedstocks to determine the biogas and methane yield of municipal wastes and to design strategies to prepare the waste for the pilot digester tests. Digester tests will assess the biogas and methane production, and a mass and energy balance calculation will be performed on the digestion of each material. An open house will highlight the Board's research and results.

The Board has been an active participant on the Bioenergy Interagency Working Group. This Working Group is headed by the California Energy Commission and consists of representatives from the Air Resources Board, Department of Food and Agriculture, Department of Forestry and Fire Protection, Water Resources Control Board, Department of General Services, and the Public Utilities Commission. The Working Group developed a Bioenergy Action Plan that provided specific actions and timelines that each agency has agreed to take, in order to achieve established targets for the use and production of biofuels and biopower.

The Board has also been actively involved with the California Biomass Collaborative and is assisting in developing a roadmap for the sustainable utilization of biomass resources in California. The Board has been assisting the Collaborative with its mission of administering a comprehensive statewide program in scientific research and innovation, technology development, demonstration and deployment, and education and training, to support and integrate efforts of the State in advancing efficient, safe, reliable, affordable, and environmentally sound biomass systems.

Bioreactor Landfills

Previously, Federal Subtitle D regulations governing landfill design and operation essentially codified what is known as the “dry tomb” approach to solid waste disposal. While the regulations required specific liner and cover designs, along with leachate and gas collection systems, they did not allow additional liquids to be added into the solid waste material. These requirements and prohibitions result in drier, “tomb-like” conditions that inhibit decomposition of the waste material. Considerable work has been conducted on an alternative known as “bioreactor” landfills. This technique involves injecting liquid or air in a controlled fashion into the waste mass in order to accelerate or enhance biostabilization of the waste.

USEPA issued a final rule effective April 21, 2004, to allow approved Subtitle D Program States such as California the flexibility and authority to issue Research, Development, and Demonstration (RD&D) Permits. RD&D Permits provide for site-specific variances under specified conditions and controls from certain Subtitle D criteria necessary to implement innovative municipal solid waste (MSW) landfill technologies, provided that the owner/operator demonstrates that compliance with the variance will not increase risk to human health and the environment over the standard requirements.

The primary demand for RD&D Permits will be to operate MSW landfills as bioreactors, where bulk liquids and liquid wastes are added in a controlled fashion into the waste mass to accelerate or enhance biostabilization of the waste. Significant potential environmental benefits are possible with this technology including reduction in long-term risk to the environment and enhanced recovery of landfill gas for production of renewable energy. Yolo County is currently operating a full-scale bioreactor demonstration project authorized on a site-specific basis under USEPA’s Project XL Program. USEPA’s Project XL Program is no longer accepting applications and additional bioreactor landfill projects in California would not be allowed for until such time that RD&D flexibility is in place.

RD&D Permit regulations adopted by CIWMB were approved by the State Office of Administrative Law (OAL) on Sept. 29, 2005. In addition, CIWMB worked with the SWRCB which adopted an amended Policy 93-62 to also allow for RD&D flexibility. In July 2006, the CIWMB concurred with the first California RD&D Permit for the Kettleman Hills Landfill in Kings County to operate the landfill as a bioreactor. CIWMB and SWRCB are working with USEPA to establish final USEPA approval action of California’s RD&D Permit Program to allow operations to go forward.

Permitting of First Bioreactor Landfill Project, Kettleman Hills Landfill, and Kings County

In July 2006, the CIWMB concurred with the first California RD&D Permit for the Kettleman Hills Landfill in Kings County in compliance with the USEPA Subtitle D Program that would allow permitting of Research, Development, and Demonstration (RD&D) Permits. Kettleman Hills was allowed to operate the landfill as a bioreactor. The CIWMB and the State Water Resource Control Board are working with USEPA to establish final approval action of California’s RD&D Permit Program to allow operations to go forward.

Climate Change

The Governor’s June 1, 2005, Executive Order established statewide greenhouse gas (GHG) reduction goals for 2010, 2020 and 2050, and directed Cal/EPA to lead a multi-agency team known as the Climate Action Team (CAT) to ensure the targets are met. The CIWMB is a member of the CAT. Each member agency is responsible for implementing multiple GHG reduction strategies, and for tracking and reporting progress to the Governor and the Legislature, starting in 2006, and continuing every two years. The CAT issued a report to the Governor and Legislature in March 2006, concluding the Governor’s aggressive targets for GHG reduction can be achieved.

Subsequent to the issuance of the CAT report, the Legislature passed and the Governor signed AB 32, the California Global Warming Solutions Act of 2006, California's landmark bill that establishes a first-in-the-world comprehensive program of regulatory and market mechanisms to achieve real, quantifiable, cost-effective reductions of GHGs. AB 32 requires the California Air Resources Board (CARB) to develop regulations and market mechanisms that will ultimately reduce California's GHG emissions by 25 percent by 2020. Mandatory caps will begin in 2012 for significant sources and ratchet down to meet the 2020 goals. In the interim, CARB will begin to measure the GHG emissions of the industries it determines as significant sources of those emissions.

AB 32 and Governor's Executive Order S-20-6 continue to acknowledge and charge CAT with overall coordination and lead for climate change strategies for the State. As a member of the CAT, our tasks include implementing the three strategies assigned to us for GHG emissions reduction: 1) Achieve 50 percent diversion mandate; 2) Capture methane at the landfills; and 3) Achieve high recycling levels and move towards zero waste (There is a link between waste prevention/recycling and GHG emission reduction, and methane, which is emitted from landfills, is a highly potent GHG). Of significant note is that we have met our first target of achieving the 50 percent diversion mandate, which means we have reduced GHGs by an estimated 3 million metric tons CO₂ equivalent! The remaining two strategies will require extensive work in both the areas of methane capture at landfills and expansion of existing diversion programs, including focusing on diversion of priority materials, focusing on program development in targeted sectors, and implementing emerging technologies.

As a CAT member, we are also charged coordinating with CARB on AB 32 implementation including: recommendations for an ARB list of discrete early action measures that can be adopted and implemented before Jan. 1, 2010; recommendations for an CARB regulations on mandatory GHG emissions reporting; recommendations for an CARB plan and ultimate regulations for how emission reductions will be achieved from significant sources of GHGs via regulations, market mechanisms and other actions. We are also to participate in other CAT issues, such as:

- the development of a comprehensive market-based compliance program that ties into the European Union;
- the Regional Greenhouse Gas Initiative, and other systems that permits trading between all entities;
- the Economic and Technology Advancement Plan to encourage investment and compliance, enhance research and develop, and demonstrate GHG emission reduction technologies.

Cross Media

Electronics Waste

The Electronic Waste Recycling Act of 2003 established a funding mechanism to improve the proper end-of-life management of certain hazardous electronic products, specifically cathode ray tube (CRT) television sets and computer monitors, liquid crystal display (LCD) television sets, computer monitors, laptop computers and plasma televisions. A \$6, \$8, or \$10 fee is paid by consumers of covered electronic devices (CED) at the time of purchase. The Act is intended to provide financial relief to local governments for managing covered electronic waste (CEW), foster cost-free recycling opportunities for consumers throughout the state, reduce illegal dumping, and decrease amount of hazardous materials in covered products. Board staff works in partnership with the Department of Toxic Substances Control (DTSC) to implement the Act. Final regulations governing the payment system were adopted by the Board in July 2006 and approved by the Office of Administrative Law on Nov. 27, 2006.

Key elements of the Electronic Waste Recycling Act include:

- Collection of an electronic waste recycling fee at the point of sale for covered electronic devices beginning Jan. 1, 2005. The fee ranges from \$6-\$10 depending on the screen size.

- Distribution by the Board of recovery and recycling payments to qualified entities covering the cost of electronic waste collection and recycling. Payments are limited to properly documented electronic wastes generated and processed in California.
- Reporting by manufacturers on sales, use of hazardous materials, use of recycled-content materials, and design-for-recycling efforts.
- Reduction in hazardous substances used in certain electronic products sold in California.
- Establishment of environmentally preferred purchasing criteria for State agency purchases of certain electronic equipment.

Board staff works with DTSC to approve participants in the E-Waste payment system. Collectors and recyclers must notify DTSC of their e-waste management activities and recyclers must also be inspected by DTSC annually. Currently there are over 500 approved collectors and 50 approved recyclers. In 2006, more than \$59 million, representing 123 million pounds of covered electronic waste, was paid to approved collectors and recyclers. This represents a doubling of the amount recycled and claimed under the Act in 2005. The program is growing significantly and fund solvency could be an issue in the next few years. The CIWMB has the authority to adjust the consumer fee annually and to adjust the recovery and recycling payment rates bi-annually, as necessary.

Program participants must report annually on costs to handle and process CEWs. This information is used to inform the CIWMB in fulfilling its obligation to adjust payment rates. Rates are currently set at \$.28 per pound to recyclers and \$.20 per pound to collectors. CIWMB contracted with Humboldt State University and R.W. Beck to analyze both the process of reporting and the data collected during the first round. Recommendations for revised guidance should improve both conformance with report requirements and quality of data captured in 2007.

The e-waste collection and recycling infrastructure has grown both in quantity and diversity because of the legislation. Voluntary participants include: nonprofit organizations, landfills, local governments, and e-waste collection and recycling businesses. DTSC inspections of recycling facilities indicate that more facilities are operating in compliance with environmental standards than before Act, due to the incentive to receive payments. Consumers throughout the state are now able to locate free collection opportunities for their unwanted television sets and computer monitors.

Staff is closely monitoring activity on the national scene. California was the first state to pass an electronic waste recycling statute, and three other states have enacted laws over the past two years. In addition, more than 20 bills have been introduced this year around the country. Each of these programs is significantly different, making implementation a challenge for manufacturers as well as state agencies. Momentum is growing for a national solution to e-waste collection and recycling. CIWMB staff is assisting several other states and the U.S. Environmental Protection Agency with information as they consider additional legislative solutions. In California, our greatest challenge is ensuring that payments are made only for eligible material generated in California. With a national solution, this challenge would be eliminated. However, any national system would have to provide cost relief to local governments and not contradict the stringent hazardous waste/universal waste management standards adopted by DTSC.

Board staff is consulting with various agencies, including the Department of Finance, Department of Conservation's Division of Recycling, State Controller's Office, the State Attorney General's Office and DTSC to establish a robust investigative fraud detection and prevention program. CIWMB and DTSC are developing a memorandum of understanding regarding collaborative work on compliance issues, fraud investigations and appropriate enforcement actions, including further development of fraud detection and prevention tools.

2006 was a big year for our electronic waste recycling program. On November 27, the Office of Administrative Law approved final regulations governing the covered electronic waste recovery and recycling payment system. The program had been operating on emergency regulations for the first two years. The successful adoption of the regulations was due in large part to the active and supportive

involvement of external stakeholders, including e-waste collectors and recyclers, electronic product manufacturers, local governments, nonprofit organizations and state agencies.

E-waste staff projects that payments for 2006 will be more than double the \$29.1 million paid in 2005 to approved electronic waste recyclers for 64.8 million pounds of properly collected, processed and documented covered electronic wastes. Claims covering recycling activities occurring through October 30, 2006, totaled \$42.2 million for 105 million pounds.

At the end of 2006, the number of approved collectors was 508; the number of approved recyclers is 53.

Environmental Justice

To provide another venue for public participation, Chapter 823, Statutes of 2003 (AB 1497, Montanez) requires the Board to develop regulations requiring local enforcement agencies (LEA) to conduct public hearings for revised solid waste facility permits. The law also charges the Board with defining "significant change" relative to these revisions.

This legislation emerged, in part, from concerns about the lack of public notification and participation in initial proposals to revise a solid waste facility permit at a major landfill. The Board adopted the regulations in October 2006 (see "Completed Rulemakings" below for more details).

Organics Regulatory Issues

The Board remains actively engaged in many key regulatory issues related to organic materials management. One important issue is the ongoing regulatory activities to reduce emissions of volatile organic compounds and ammonia from composting. The Board continues to work collaboratively with the South Coast Air Quality Management District and the San Joaquin Valley Unified Air Pollution Control District on rulemaking to reduce emissions from composting facilities. The Board is working to protect the multimedia interests of both air quality and waste management, while also maintaining California diversion efforts to meet the Integrated Waste Management Act requirements. The Board completed bench-scale research and field demonstration tests to develop more cost-affordable ways to reduce air emissions through best management practices for greenwaste composting. The Board is currently wrapping up field emission test results in the San Joaquin Valley Unified Air Pollution Control District (District) that will evaluate compost emissions for a complete lifecycle, food waste composting, and additional mitigation alternatives. The results from this research will provide essential data for the District's rule development, as well as the South Coast Air Quality Management District's rule development of PR 1133.3 for reducing emissions from greenwaste composting.

Water quality issues are becoming more prevalent for organic materials management. The Board is working with various regional water quality control boards on the development of new regulatory language for Waste Discharge Requirements for composting facilities. The Board is also engaged in discussions with the Central Valley Regional Water Quality Control Board to evaluate the impacts and alternatives of land application of food residuals from food processing plants.

Odors from solid waste processing facilities continue to be a regulatory challenge. The Board engaged with the South Coast Air Quality Management District in rule development to address odor concerns from material recovery facilities and transfer stations. The Board also has conducted odor response research for composting facilities. The Board initiated a project in partnership with San Diego State University to develop solutions to odor complaints plaguing an increasing number of facilities. The project, known as the Comprehensive Compost Odor Response Project, or C-CORP, is a multi-faceted project that seeks to provide odor-management tools to LEAs and to composting facilities operators. The project was completed and submitted to the Board in draft form in late 2006 and is undergoing final formatting and review before being published on the Board's website in January 2007.

The Board continues to follow the registration and use of herbicides to evaluate their potential to negatively impact the compost industry. For example, the Board is following the registration process of the new active ingredient aminopyralid, an herbicide belonging to the same class as clopyralid.

The Board remains vigilant regarding the presence of Sudden Oak Death (SOD) in central, coastal California. Board staff participated in various committees of the California Oak Mortality Task Force to ensure proper disposal, biomass utilization, composting, or other reuse of organic materials is not interrupted. As a result of the Board's efforts, markets throughout California for organic materials processed from the 14 quarantined counties remained viable in 2006.

The Board is also concerned with SOD in central coastal California. Staff participated in various committees of the California Oak Mortality Task Force to ensure disposal, biomass utilization, composting, and other uses of organic materials are not interrupted.

The host list of *Phytophthora ramorum*, the pathogen of SOD, continued to expand during 2006 while the number of quarantined counties in California remained at 14. Hazardous trees were removed on as-needed basis since funds for these activities were scarce in 2006.

Organics Regulatory Challenges

In 2004, the California Integrated Waste Management Board (CIWMB) initiated a project in partnership with San Diego State University to develop solutions to odor complaints plaguing an increasing number of facilities. The project, known as the Comprehensive Compost Odor Response Project, or C-CORP, is a multifaceted project that seeks to provide odor-management tools to local enforcement agencies (LEAs) and to composting facilities operators. The project was completed and submitted to the Board in draft form in late 2006 and is undergoing final formatting and review before being published on the Board's website in January 2007.

The Board also completed bench-scale research and field demonstration tests to develop more cost-affordable ways to reduce air emissions through best management practices for greenwaste composting. The Board is currently wrapping up field emission test results that will evaluate compost emissions for a complete lifecycle, foodwaste composting, and additional mitigation alternatives. The results from this research will provide essential data for the San Joaquin Valley Unified Air Pollution Control District rule development, as well as the South Coast Air Quality Management District rule development of PR 1133.3 for reducing emissions from greenwaste composting.

Other issues include water quality, which is becoming more prevalent for organic materials management. The Board is working with various regional water quality control boards on the development of new regulatory language for Waste Discharge Requirements for composting facilities. The Board is also engaged in discussions with the Central Valley Regional Water Quality Control Board to evaluate the impacts and alternatives of land application of food residuals from food processing plants.

In the Board's Reuse Assistance Grant program five jurisdictions were funded for 2005-06 and seven more for 2006-07. The reuse projects resulting from the program in the last year continue to have positive impacts on the environment. For example, the San Mateo County RecycleWorks processed 562.3 tons of electronic waste for reuse or recycling. A total of 306 refurbished total systems have been distributed, including 108 donated to low-income individuals, educational programs, and nonprofit organizations. The El Dorado County Habitat for Humanity ReStore has diverted more than 145 tons of construction and demolition materials.

New scoring criteria and the evaluation process for the next two grant cycles were approved by the Board in November 2006.

CROSS-AGENCY REGULATORY ISSUES

Coordination with SCAQMD on Rule 410 (odors from Material Recovery Facilities (MRFs) and Transfer Stations):

On Oct. 6, 2006, the Governing Board of the South Coast Air Quality Management District adopted Rule 410 – Odors from Transfer Stations and Material Recovery Facilities. The adoption followed an 18-month development process, which included considerable involvement from Board member Mule and Permitting and Enforcement Division staff. The final rule should provide for solid waste facilities

that are more responsive to the concerns of the community and a more cooperative and coordinated approach by the regulatory agencies that oversee the 44 facilities in the District subject to the rule.

The rule requires owners/operators of transfer stations and MRFs to prepare an odor management plan containing community response protocols and odor prevention and control measures. The owner/operator can choose to submit an odor management plan directly to the District (in which case the District approves and provides any and all enforcement) or to the Local Enforcement Agency (in which case the LEA approves and provides enforcement). The requirements for plans submitted to the LEA are less-prescriptive than plans submitted to the District, which offers the owner/operator a greater level of flexibility for selecting site-specific odor control measures. Submitting a plan to the LEA also takes advantage of the LEA's expertise and familiarity with the site-specific operations. As a result of the rule, District staff and LEA staff pledged to be more diligent in the sharing of information regarding odor complaints and enforcement actions.

Landfill Gas Issues – Climate Change and Health & Safety

Governor's Executive Order S-3-05 issued on June 1, 2005, established aggressive greenhouse gas (GHG) reduction targets and solidified California's role as a leader in the fight against global warming. The Board has been assigned responsibility for increasing capture of landfill gas, which is identified as a significant GHG source (up to 2 percent of total GHG emissions). To address this responsibility, the Board is coordinating with other agencies to improve GHG-related landfill data and emissions estimates, in addition to providing technical assistance and policy and program development. The Board has completed the most current and comprehensive inventory of landfill data necessary to focus efforts where significant reductions are possible and can be verified. Estimating landfill methane capture efficiency estimates for existing control and recovery systems is an area of substantial uncertainty and controversy. The Board is providing technical assistance on a study funded by the California Energy Commission (CEC) to address the capture efficiency issue to substantially increase confidence in the estimates of GHG emissions and emissions reductions. The Board also developed additional project concepts that will be implemented in 2007. These include developing guidance to landfill owners and operators for cost-effective technologies and best management practices for reduction of GHG emissions, and a solicitation of grant proposals for up to \$740,000 in Board funding of a landfill gas to liquefied natural gas (LNG) demonstration project. Conversion of landfill gas to LNG has substantial potential benefits toward reduction of GHGs in accordance with the Board's Landfill Methane Capture strategy and reduction in other air pollutants, in addition to assisting in achievement of State bioenergy and biofuels goals laid out in Executive Order S-06-06.

In addition, the Board's 2004 Geosyntec study on landfills recommended that the Board require the same gas monitoring requirements at active landfills as are currently required at closed landfills. Board staff started the informal regulatory process on this issue in 2005 and the formal regulatory process in 2006. However, even with this, little is known about the current and long-term viability of gas monitoring systems at active, closed, or illegal and abandoned landfills. The Board approved a Scope of Work in December 2005 to study this issue; initial field work was started in late 2006.

Waste Prevention and Market Development

Recycling Market Development Zones (RMDZ)

2006 was a landmark year for our RMDZ program as the final two Recycling and Market Development Zones--Santa Barbara and Northeastern California--completed the Zone renewal process for new 10-year terms. There are now 33 zones located throughout the State. In 2006, businesses within these zones diverted approximately 6.6 million tons of material and created over 17,000 jobs.

Also in 2006, the Board approved six loans totaling approximately \$5.9 million to businesses that are projected to divert over 103,000 tons of material annually and create 67 new jobs. One significant project is for the first mechanized mixed glass facility which will produce clear, amber and green furnace-ready feedstock for glass container manufacturers.

Recycling Market Development Zone Loan Program

The Recycling Market Development Revolving Loan Program provides low interest rate loans to businesses within 33 Board-designated Recycling Market Development Zones (RMDZs). It finances businesses that process or use material that would otherwise be disposed in California landfills. According to RMDZ administrators, the loan program is their most important tool in attracting, developing, and retaining recycling-based manufacturers.

These manufacturers use recycled material as feedstock to make new products, which results in the diversion of waste from California landfills. This helps local jurisdictions meet and maintain their 50 percent state waste diversion mandate. Manufacturing products out of recycled materials creates double the economic benefit of simply disposing of the waste material.

The Board approved \$5.9 million from the RMDZ Fund to six recycling businesses in 2006. The companies are expected to create 67 jobs and divert 103,000 tons of non-hazardous solid waste from California landfills annually. Three of the loans were made to companies utilizing recycled plastic, one company using tires as feedstock, one company using recycled paper, and one utilizing glass. The latter is an innovative project which is the first mechanized mixed glass facility in California. This facility will produce clear, amber and green furnace ready material from dirty mixed glass that is currently unusable by glass manufacturers. This project has the potential to significantly reduce the amount of glass going to California landfills.

The Board expects demand for its loan program to be in the \$5 million to \$10 million range as in previous years. The cost in 2006 for administering the program was \$346,809.

Reuse Assistance Grants

The Reuse Assistance Grants (RAG's) Program is a competitive grant program that provides \$250,000 to local public agencies to establish or expand reuse infrastructure that will continue far beyond the term of the grant. Projects funded in fiscal year 2005–06 include establishing a collection and distribution system of cast-off materials that will be reused by elementary schools, expanding an outlet and resource store for used construction and demolition materials, and improving and promoting Habitat for Humanity Re-Stores. The Board has funded other projects that established food waste donation programs, electronic reuse programs and created materials exchanges. New scoring criteria and the evaluation process for the next two grant cycles was approved by the Board in November 2006. The 2007/2008 Notice of Funding Availability was released in January 2007.

Sustainable Landscaping

The CIWMB partners with local jurisdictions and the commercial landscaping industry to encourage the use of sustainable landscaping practices to reduce greenwaste, conserve water, and minimize non-point source pollution from urban landscapes. The CIWMB, City of Sacramento Department of Utilities, County of Sacramento Storm Water Quality Program, UC Cooperative Extension, Ecological Farming Association EcoLandscape Working Group, U.S. Environmental Protection Agency Region 9, and local landscape contractors and architects are sponsoring the EcoLandscape 2007 Conference which will be held in Sacramento in February 2007. This conference will educate landscape professionals on practical applications of landscape ecology, alternative weed control, improving soil health to control erosion and prevent disease, and natural turf management.

Waste Reduction Awards Program (WRAP)

In 2006, the 14th cycle of the Board's annual Waste Reduction Awards Program (WRAP) recognized 217 eligible businesses and organizations representing 1,288 facilities. Winners were announced in

February 2007. Additionally, five exemplary businesses were selected as “WRAP of the Year” at the same time. These awards are chosen annually from the winners-at-large based on exemplary accomplishments and innovative waste reduction programs.

WRAP continues to evolve, addressing new priorities such as electronic wastes. Most notable of these is the vision to move California toward the goal of a zero-waste society. While intent on increasing the number of businesses applying for the program, WRAP focused on enhancing the quality of information secured through the application process and recognizing businesses that extend their environmental priorities beyond adopting a recycling program.

The WRAP application is open to private industry and nonprofit organizations. More than 15,500 WRAP honors have been awarded since the program’s inception in 1993. Many businesses have received the award multiple times over the years. This year, the annual program began its 14th cycle with the open application period kicking off on June 1, 2006, and continuing through Aug. 31, 2006.

Recycled-Content Product Database (RCPD)

The recycled-content product (RCPD) database (<http://www.ciwmb.ca.gov/RCP>) provides free worldwide access to information on thousands of RCPs as well as the manufacturers, re-manufacturers, re-furbishers, thrift stores, retailers, distributors, reproducers, mills, and converters that manufacture or supply them. Companies and their representatives are located around the globe, making this truly an internationally recognized tool.

In addition to improvements to the organization, taxonomy, and search capabilities, database managers established a State Agency Buy Recycled Campaign (SABRC) compliant portal. Accessing the database through this mechanism provides the user with search results that include only SABRC-compliant products. This tool provides state agencies with products that, when purchased, will count towards fulfillment of the SABRC mandates for RCP procurement. That capability will save time and effort by both the State agencies and the product suppliers, and will increase sales of SABRC-compliant products by making them more accessible.

The RCPD is a very important marketing tool for promoting recycled content products. Continuing efforts are being made to increase advertising for the RCPD, and to market it at events such as trade shows, the California Resources Recovery Association (CRRA), The League of California Cities, REXPOs (Stockton, CA - Ag Show), World Ag Expo (Tulare, CA), Earth Day events, green building events, recycling events, meetings, etc. The RCPD currently has 6,985 products listed, among 2,781 companies. There are many, many more possible companies to be added to the RCPD in the future.

Recycled Content Materials Outreach Program

In 2006 the Board continued its efforts to reach out to local jurisdictions and educate public officials and staffs regarding the use and benefits of recycled content materials such as rubberized asphalt concrete, compost and mulch, tire derived aggregate and recycled aggregate. It reached dozens more through the League of California Cities Annual Conference, California State Association of Counties Conference and the Regional Council for Rural Counties Conference. The program continues through June 2007, but the Board already has seen a great response from the local jurisdictions and, as a result, should see increased growth in the use of these products.

Environmentally Preferred Purchasing (EPP)

EPP efforts have made steady progress in 2006. The EPP Best Practices Manual is online and in use and over 600 people received training on EPP, ranging from a 15-minute introduction to a two-hour class. Additionally, several new environmental standards for computers, monitors, carpet, and recycled paint became available. The Prison Industry Authority is moving forward to manufacture two green cleaning products and will continue to make modular office systems that conform to the state environmental specification. The Department of General Services implemented two new policies that support EPP covering copy paper and carpet purchase.

Environmentally Preferable Purchasing Best Practices Manual

The State's Environmentally Preferable Purchasing Task Force has developed a web-based Environmentally Preferable Purchasing Best Practices Manual for State purchasers. State law [Chapter 575, Statutes of 2002 (Chan, AB 498)] mandated the development of the manual, which will help State employees in the selection products that offer best value, not only in terms of cost and performance, but also for employee health and the environment. The project, co-managed by CIWMB and DGS, was created with contributions from over 100 State employees from about 16 different agencies. The online manual (<http://www.green.ca.gov/EPP/Introduction>) currently has 39 of the final 42 chapters online.

Environmentally Preferable Copier Paper Use and Procurement

The CIWMB has helped lead the way to conduct extensive research on the availability, price, delivery mechanisms, and environmental attributes of copier paper and the economic benefits associated with automatic duplex copying. Based on this research, the CIWMB was able to provide technical assistance to help DGS in its development of an internal policy (Administrative Order 06-04, issued March 1, 2006) that requires a reduction in copier paper use and the use of 100 percent post-consumer content copier paper.

Environmental Features Added to State's Office Supply Contract

The CIWMB requested and encouraged DGS to include language in bid documents so that product catalogs identify products with environmental attributes. Other language in the bid documents addressed packaging and the manufacturers' own environmental practices. The vendor was also required to provide reports on the sales of environmentally preferable products. The vendor now has a "green book" making it easier to find and purchase greener products, and these products are available to any public entity in California at competitive prices through the state contract.

Environmentally Preferable Purchasing Training and Education

CIWMB staff, along with DGS, developed and conducted EPP training for 541 state employees at 10 events, and an additional 121 people were trained via broadcast. Additionally, CIWMB staff developed educational materials on EPP that are now a standard part of the California Procurement Contracting Academy. While this training is a very small portion of the entire training, at least all future procurement officials going through the course will have an introduction to EPP.

Environmentally Preferable Purchasing Measurement

In pursuit of automated, seamless EPP measurement, staff provided data metrics to DGS for consideration in the state's future e-procurement systems and drafted a measurement plan for EPP tracking that can be used in the interim. EPP measurement is severely limited without centralized purchasing and without resources and requirements for data collection, management of the data, and analysis.

Rigid Plastic Packaging Containers

The Rigid Plastic Packaging Container (RPPC) law has had a positive effect on the use of post-consumer resins in the production of RPPCs intended for sale in California. As a result of the compliance certifications the CIWMB conducted for the calendar years 1996, 1997-99, 2000, 2001, and 2005, nearly 1,700 product manufacturers have been certified throughout the United States. The requests for compliance certifications resulted in improved awareness of the law and, in most cases, compliance with the law. Most manufacturers demonstrate compliance by using post-consumer material in their containers or reducing the container weight. Some manufacturers have complied by reusing or refilling the containers. Manufacturers that do not comply are subject to monetary fines or penalties levied by CIWMB.

Staff estimates that since the program's inception manufacturers have reused more than 300,000 tons of post-consumer resin and reduced total virgin resin usage by 800,000 tons.

As a result of changes in the availability of necessary data, cost, relevance to containers regulated under the RPPC law, and to increase its effectiveness, the RPPC law was revised in 2004 (SB 1729, Chesbro) to repeal the requirement that the CIWMB annually publish recycling rates for "all RPPC" and Polyethylene Terephthalate (PET) containers. Formerly, product manufacturers could use these published rates to demonstrate compliance if one of them was above its respective threshold value of 25 or 50 percent. In that case product manufacturers could use the published rate to demonstrate compliance, which made conducting a certification a moot point. However, product manufacturers are expected to be in compliance with the law at all times, specifically through one or more of the source reduction, recycled content, or reusable/refillable options. And finally, since the recycling rates are no longer available as compliance options to regulated product manufacturers, the CIWMB made a policy decision to conduct annual certifications of up to 100 companies.

In addition to the above, CIWMB's RPPC regulations were also revised to include violations and their associated penalties. For companies that fail to demonstrate compliance in a certification, CIWMB staff will seek to negotiate settlement agreements, based on identified violations, before referring the matter to an administrative law judge for adjudication. Staff is currently developing settlement agreements for companies being audited from the year 2000 certification, and companies found to be out of compliance in the year 2001 certification.

With the recent changes to the law, and the CIWMB's policy decision to conduct annual certifications and conduct greater education and outreach efforts to increase awareness of the law's requirements, the CIWMB is confident that the law will now do much more to support demand for post-consumer plastic.

Plastics Market Development

Building on the comprehensive review of plastics and possible policy options contained in the Plastics White Paper, the CIWMB directed staff to focus their efforts on key areas including increasing the recovery and recycling of agricultural and commercial film plastic, biodegradable plastics, litter prevention, and other topics. The CIWMB continues to collaborate with representatives from the plastics industry, the environmental community, and others to analyze plastic generation, collection and recycling. Specifically, CIWMB staff has formed working groups which are examining opportunities to increase plastic film collection and recycling. These working groups will help the Board to identify and focus on actions to increase the collection of film plastic from residential, commercial and agricultural sources. Implementation of education and outreach efforts and demonstration projects is expected to increase the collection and use of recovered plastics and improve California's environmental quality. In addition, Board staff is participating on a working group established by the California Coastal Commission to develop an anti-litter campaign. The goal of the campaign is to reduce the use of single-use disposal plastic packaging, increase availability of waste and recycling receptacles in public places, and develop innovative methods to reduce plastic waste.

Plastic Trash Bags

Under the Plastic Trash Bag law every manufacturer of plastic trash bags sold in California is required to certify to the CIWMB that the bags contain at least 10 percent post-consumer resin. An exemption can be granted if the CIWMB concurs that an insufficient quantity of post-consumer material is available. Wholesalers are required to certify the purchase and sale of trash bags. Manufacturers and wholesalers who do not comply with the post-consumer use and reporting requirements are prohibited from contracting with the State agencies for the delivery of goods and services.

For the 2005 reporting period more than 30 manufacturers demonstrated compliance with the minimum-content requirements by the use of nearly 6,500 tons of recycled plastic in their trash bags.

Organics

Food Scrap Management

According to the Board's 2004 Statewide Waste Characterization Study, nearly 15 percent of California's waste stream consists of food scraps. Food remains the largest single waste type measured.

The number of jurisdictions, institutions, and commercial businesses that are planning and implementing food diversion programs continues to increase. However, barriers to food scrap program implementation—real and perceived—still exist. To address some of these barriers, Board staff continues to maintain and further develop the [Food Scrap Management website](#). The site provides additional case studies, fact sheets, appropriately permitted compost facilities, in-vessel composting systems, compostable foodservice ware, and other reference resources through its web-based food diversion information clearinghouse. Board staff also continues to promote these resources and the Board-adopted "Food Waste Diversion Hierarchy" through its web page, outreach events, and presentations to facilitate the best end use of food discards. The hierarchy provides some food diversion alternatives where large scale composting is not a viable option. Conversion technologies, particularly anaerobic digestion, are also playing an increasing role in food diversion.

Staff members have developed informal partnerships with organizations such as the California Restaurant Association and the Greening of Ethnic Restaurants program. Staff is also working with the Central Valley Regional Water Quality Control Board, Stanislaus County, and food processors and potential end users to identify alternatives to the land spreading of food processing wastes.

A major barrier to increased food diversion in the state is an inadequate capacity of regionally located compost facilities permitted to accept food waste. Decisions to site new facilities or modify existing permits to include food waste are made at a local level, and these decisions have faced local barriers. As a result, many regions in the state do not have close access to food composting options of any significant scale.

Greening the Open Office Panel Systems Statewide Specifications

CIWMB staff played a pivotal role in improving the recycled-content requirements for the Open Office Panel Systems Bid. The recycled-content requirement is one of five environmental requirements of the bid documents. The recycled-content specification requires bidders to meet the recycled content requirements/specifications listed by material category. These improved recycled-content requirements, in addition to the other environmental requirements, work in concert to achieve a truly green contract that will result in environmentally preferable Open Office Panel Systems provided through statewide contracts to all state agencies.

California Gold Sustainable Carpet Standard

As part of the Board's participation in the National Carpet Stewardship Memorandum of Understanding, CIWMB staff worked with the Department of General Services, other state environmental agencies, and the carpet industry in the development of an environmentally preferable purchasing standard for carpet purchased by the State of California. In June 2006, the Department of General Services adopted the California Gold Sustainable Carpet Standard for all carpet purchases. The standard addresses manufacturing, energy consumption, material usage, and end-of-life management. Additionally, the standard requires indoor air quality attributes for worker safety, as well as 10-percent post consumer content. Other state and local governments have shown significant interest in the California Gold Sustainable Carpet Standard. It is currently under consideration for adoption by the Western States Contracting Alliance and a 12-member Midwestern States purchasing cooperative. If these organizations adopt the California Gold Sustainable Carpet Standard, it will become the de facto national standard.

Markets Assessment Action Plan (MAAP)

CIWMB staff played an integral role representing the Construction and Demolition (C&D) portion of the MAAP project. Several C&D processors in Marin County were surveyed to track the flow of those materials to their end markets as part of a larger pilot project to track the flow of all materials in the state. Staff's findings include that of the more than 402,000 tons of C&D material diverted in 2005 in Marin County, approximately 80 percent went to beneficial re-use at the landfill, 18 percent went to public works re-use, and 2 percent was recycled. Staff determined that without the landfill, no viable markets existed in 2005 for C&D materials. These findings provide a glimpse of the type of material specific flows within specific regions that are being unearthed by the MAAP.

Construction and Demolition Contractors' Tool Kit

CIWMB staff, in cooperation with the Construction Materials Recycling Association, developed a web-based collection of tools for contractors to facilitate the diversion of C&D materials from their projects. Some of the tools were new, including specifications for waste diversion in both construction as well as demolition projects. Existing tools such as the C&D Recyclers database were also included. The website for the tools is available at: <http://www.ciwmb.ca.gov/Condemo/Toolkit>.

Collaborative for High Performance Schools

CIWMB staff continued to play a prominent role in the ongoing success of the Collaborative for High Performance Schools (CHPS), a 501(c) (3) nonprofit organization. CIWMB staff served on the CHPS Board of Directors and chaired the CHPS Technical Committee overseeing the development of the 2006 edition of the CHPS Best Practices Manual. Significant updates and revisions were made from the previous editions with additional emphasis on the diversion of construction and demolition debris and procurement of recycled content and environmentally preferable products. The timing of the release of the 2006 edition of the CHPS Best Practices Manual coincided with the passage of Proposition 1D that included \$100 million in incentives for high performance schools that will leverage between \$2 billion-\$10 billion in school construction.

Recycled-Content Newsprint Program

To foster markets for old newspapers, the California Legislature in 1991 established the Recycled-Content Newsprint Program (Public Resources Code sections 42750–42791). This program mandates that at least 50 percent of newsprint used by each of California's printers and publishers be recycled-content newsprint (RCN). Statute defined RCN as containing a minimum of 40 percent post-consumer old newspaper fiber.

California printers and publishers (consumers) annually certify to the CIWMB the total amount of RCN and non-RCN used by their businesses. Newsprint manufacturers that produce RCN used by California printers and publishers must also annually certify how much de-inked pulp they received or produced and how much RCN they distributed to California's newsprint printers and publishers. Both consumer and manufacturer certifications are due to the CIWMB by March 1 each year.

The annual RCN certifications submitted by the consumers and manufacturers provide the following statistics:

- All of California's 142 regulated consumers certified to the CIWMB
- 64 percent of all the newsprint used in California was RCN
- 85 percent of the consumers were in compliance; only 15 percent of the consumers requested exemptions
- Total newsprint use decreased by 3 percent from 2004 to 1,528,816 metric tons
- Total RCN use decreased by 6 percent from 2004 to 985,152 metric tons
- 97 percent of the consumers submitted their certifications by the March 1 due date, representing the highest compliance rate since 1991

California Materials Exchange (CalMAX)

With the CalMAX program in its 14th year, it is currently hosting more than 1,200 active listings in its online catalog (www.ciwmb.ca.gov/CalMAX/). The CalMAX website attracts an average of about 40,000 “hits” a month. The “trash to treasure” theme of CalMAX helps create opportunities for businesses to conserve resources, trade, sell or donate usable materials, and to make reuse, reduce and recycle part of their work standards.

A primary purpose of the program is to facilitate business-to-business transactions of those materials that may otherwise be discarded, which in turn assists jurisdictions reach their mandated waste diversion goals. Business and industry leaders that use this waste prevention program understand the economic and environmental issues associated with actively reducing waste.

In 2006, CIWMB initiated a major upgrade to the CalMAX database and website. This effort will boost the effectiveness of the program, allowing for better collection of exchange information, automatic updating of listings and matching of needed and wanted materials.

Waste Prevention Information Exchange

The Waste Prevention Information Exchange (WPIE) shares and generates waste prevention information. Its website (<http://www.ciwmb.ca.gov/WPIE/>) is a directory of all relevant waste prevention topics, including those not traditionally addressed by other CIWMB programs. Information is provided by both WPIE and by the users of WPIE, who regularly submit information. WPIE also provides limited research for its users.

WPIE maintains several sections of the CIWMB website, including Business Waste Reduction (<http://www.ciwmb.ca.gov/BizWaste/>), Paper (<http://www.ciwmb.ca.gov/paper/>), Packaging (<http://www.ciwmb.ca.gov/Packaging/>), and others. Waste Prevention World, another project of WPIE, is one of the oldest sections of the Board's website, and provides practical information found nowhere else in the State for both businesses and the general public. Any search of the phrase Waste Prevention World on any Web search engine will lead directly to the website, <http://www.ciwmb.ca.gov/WPW/>.

WPIE maintains over 100 fact sheets, mostly business related, and provides them to a variety of users, including the public and businesses. The primary users of the fact sheets are local agencies who stock these materials for use in their business waste prevention outreach efforts.

WPIE distributes 18 waste prevention posters and stickers in both printed and electronic form via the Business Waste Reduction website (<http://www.ciwmb.ca.gov/BizWaste/Posters/All.htm>). WPIE designed and produced the now popular fluorescent lamp and battery posters and stickers. Both CIWMB and DTSC printed additional supplies of fluorescent lamp and battery posters and stickers in 2006. WPIE also distributes these posters and stickers for DTSC. New in 2006 are Spanish versions of the fluorescent lamp and battery posters and stickers.

Organics Partnerships

Caltrans

Caltrans has the potential to significantly increase its use of compost and mulch in roadside applications. The Board entered into an interagency agreement with the University of California Riverside Extension to assist Caltrans in the development of compost and mulch specifications for their statewide design and maintenance projects. In 2006, the new specifications were introduced to Caltrans staff, erosion control contractors, storm water agencies, and other interested parties at workshops held at Caltrans district offices in Los Angeles, San Diego, Oakland, Fresno, and Sacramento. Speakers from Departments of Transportation in the states of Washington and Texas, U.S. Composting Council, Filtrexx, Association of Compost Producers, UC Cooperative Extension, and

Caltrans also discussed their experiences using compost on erosion control and revegetation projects. The Compost Use for Landscape and Environmental Enhancement manual is being developed and will be presented at future Caltrans compost workshops. Caltrans' use of compost and mulch will be measured during 2007 and succeeding years to determine how this project has impacted procurement.

Increasing Compost Use by Caltrans

Between August and October 2006, the CIWMB, in partnership with Caltrans, sponsored "Improving Vegetation Establishment and Erosion Control with Compost-Based Specifications" workshops in five Caltrans district offices. They were well-attended, with a total of 212 participating in the five workshops. The workshops are part of a project funded by the CIWMB with a goal of increasing Caltrans' procurement of compost and mulch for roadside applications. The workshops introduced the new Caltrans compost and mulch specifications to Caltrans district designers, landscape architects, biologists, and stormwater quality coordinators.

Organics Outreach

Staff attended and participated in 18 outreach events throughout California during the last year, distributing over 4,500 pieces of educational information on sustainable landscaping, composting and grass cycling to cities, counties, local government and the public. In addition to the Caltrans Workshops, staff put together a week of activities for International Compost Week, which was held May 7-13, 2006. An exhibit booth in the CalEPA building lobby distributed composting information and a drawing was held for composting bins donated by Sacramento Solid Waste Division. The CalEPA building's courtyard was put to use showing an erosion control demonstration using the Filtrex sock, along with a composting demonstration for building employees. The week of activities also included two segments on Sacramento & Co., a Channel 10 television show. Board staff demonstrated both vermicomposting and proper materials and methods for composting. Board Members were treated to a tour of the Grover Composting facility in nearby Modesto.

Staff were also included as speakers at the December 2006 Turf & Landscape Institute event held at the San Jose Convention Center; actively participated in the 2006 USEPA Pacific Southwest Organics Residuals Summit, and were featured presenters at the 2006 U.S. Composting Council Annual Conference.

Best Management Practices for Compostable Materials

Composting activities remain an important step in the Board's goal to get California to reduce and recycle organics in the waste stream. In 2006, staff continued to coordinate with industry, local enforcement agencies, and local and state government agencies in developing best management practices (BMP) and odor mitigation measures to satisfy the requirements of Public Resources Code section 43209.1. Odor-based BMPs integrate feedstock handling with composting methods to promote a greater degree of aerobic activity. Operators have contributed valuable insights based on their varied operations.

The Board also is conducting emissions tests to identify BMPs that result in affordable alternative control strategies so that compost facilities can meet air quality standards. In 2006, the Board conducted emissions tests on greenwaste composting at the City of Modesto Compost Facility. The tests were designed to evaluate baseline emissions of volatile organic compounds for greenwaste composting and food waste composting. The tests also determined potential emission reductions for two mitigation strategies: inoculant additives and finished compost cap used as a pseudo-biofilter. Emission tests were conducted over the life cycle of the composting process.

The Board sponsored research to evaluate baseline emissions for naturally occurring organic materials. The research project evaluated volatile organic compounds and ammonia emissions and compared the results for naturally occurring organic materials to the emission levels if the same materials were composted. Research findings indicate the emissions for natural biodegradation of naturally occurring organic materials are higher than if the same materials are composted. A research article detailing the ammonia emission results has been peer-reviewed and was published in 2006 in

the Compost Science & Utilization Journal. A research article detailing the volatile organic compounds emission results has also been peer-reviewed and is scheduled to be published in 2007.

As noted above, CIWMB has conducted some research and field work on BMP ideas to reduce emissions from composting and has identified a few promising options; however, not all composters use a traditional open windrow composting process and there are likely additional BMPs that need to be identified by the industry. In 2007 the Board will let a contract to continue support of CIWMB's work on organic materials management with the South Coast Air Quality Management District and the San Joaquin Valley Unified Air Pollution Control District, as well as the various regional water quality control boards. The contract will survey the compost industry to gather information on BMPs to reduce emissions from composting. The survey would also gather critical information that is needed for discussions with the regional water quality control boards to ensure that composters are not impacting groundwater and storm water runoff. The survey would also serve as an educational tool to inform composters of these impending rulemaking by regional air districts and water boards and to encourage their participation as stakeholders in that process. Lastly, the survey would collect market data to evaluate the impacts of organic materials management as a result of such rulemaking. Market conditions would be included in the survey to better understand the potential impacts of the rulemaking on the compost industry, markets, and organic materials management in general.

Solid Waste Facilities

Solid Waste Site Cleanup

In 2006 the Board approved \$4.8 million for eight cleanup projects (nearly \$2.95 million for Board-managed projects and \$1.85 million for grants) through its Solid Waste Disposal and Codisposal Site Cleanup Program.

Torres Martinez Solid Waste Collaborative: In 2006 the Board achieved substantial accomplishments addressing illegal dumping and Environmental Justice on the Torres Martinez Reservation, the central front in the battle against illegal dumping in the rapidly growing inland empire area of Southern California. The Torres Martinez Tribal Government, U.S. Environmental Protection Agency, Board and other local, state, and other federal agencies formed a Solid Waste Collaborative in Spring 2006. The mission of the collaborative is to develop and implement a multi-jurisdictional plan to clean up and prevent illegal dumping on the Torres Martinez Reservation. The plan includes community outreach, monitoring and compliance, dump cleanup and access control, and infrastructure development. The Board's role has primarily been implemented through the Solid Waste Cleanup Program, to clean up and establish access controls at the largest and most egregious illegal dump sites on the reservation. These sites pose a substantial threat to public health and safety and the environment from open burning and public contact, and pose a significant problem as an attractive nuisance for additional and progressive dumping and burning.

The Tayawa cleanup project was successfully completed by the Board's contractor with oversight of Program staff on Sept. 18, 2006. The project included removal of a large area of illegally dumped solid waste, tires, and construction and demolition debris, in addition to construction of a berm and trench to prevent future dumping. The total cost for the project was approximately \$190,000. During the project, a large quantity of treated wood waste (TWW) used for grape stakes was removed from the site by the adjacent farmer for reuse and did not have to be removed and disposed of by the Board's contractor. Information had become available to staff during the project to identify the farmer as responsible for the TWW, and a concerted effort was made to gain cleanup of this waste by the farmer in coordination with the Tribe and agencies. The Tribe and agencies were very appreciative of the Tayawa cleanup project and the Board's assistance. This successful cleanup project was a topic of a press event coordinated by U.S. EPA on Oct. 20.

The Ibanez property was approved in November 2006 for a Board managed cleanup project which is ongoing (January 2007) and will be a much more massive, complicated, and costly than the Tayawa project. Approximately 70,000 cubic yards of solid waste, construction debris, burned residue, and landscaping waste will either be removed from the site and properly disposed of in a permitted facility, or processed and spread on-site if appropriate as an agricultural soil. Additionally, more than 300,000

cubic yards of dredge spoils and sewage sludge disposed in the early 1990s will be consolidated and regraded on-site to minimize potential public contact. The estimated cost of the project is \$1,750,000 and cost recovery against potentially responsible parties will be pursued.

Farm and Ranch Cleanup Grants

The Board revised its Farm and Ranch Solid Waste Cleanup and Abatement program application materials and procedures to implement Chapter 628, Statutes of 2002 (SB 1328, Chesbro). This law became effective on Jan. 1, 2003. Together with expanded outreach efforts by the Board, the program changes made by Chapter 628 have significantly increased utilization of this program. The maximum grant award doubled from \$50,000 to \$100,000 per site, and eligibility was extended to Native American Tribes and Resource Conservation Districts.

For fiscal year 2004–05, the Board approved grant applications in the amount of \$920,144, marking the second year the annual funding was fully used since inception of the program in 1999. Approximately 274 sites were approved for cleanup under the program through 2005. In fiscal year 2005-06, the demand for funding was reduced (approved 29 sites/\$576,129). However, demand in fiscal year 2006-07 has picked up, especially for the third cycle of grants which will be considered by the Board for approval in March 2007.

Illegal Dumping Enforcement Task Force

In October 2005, P&E management and staff initiated development of a high-level, State/Local Illegal Dumping Enforcement Task Force. A consultant was hired in December to serve as the Task Force Coordinator. The purpose of the task force was to assess the extent of the illegal dumping problem and develop recommendations to the Board to enhance the effectiveness of local and state responses to the problem. The task force was convened in 2006 and included representatives of local governments, State and Federal agencies, nonprofit organizations, and the waste management industry. Task Force meetings were held for March, May and September 2006, and a draft Task Force report was developed. This will be presented to the Board for discussion in early 2007.

Closed, Illegal, and Abandoned Sites

The Board continued to assist LEAs on investigation, enforcement, and cleanup of closed, illegal, and abandoned (CIA) disposal sites. Investigations include office-based and field-based activities using Board laboratory and intrusive sampling contractors. High priority landfill gas sites may be investigated using Board equipment for continuous explosive gas monitoring in structures. The CIA Program addresses public health and safety aspects of over 1,200 sites listed in the Board's SWIS system. Over 50 sites are currently established as a high priority for investigation and follow-up. A summary of highlights of the program is as follows.

The CIA Program in 2006 expended over \$200,000 in environmental investigations through its contract with Ninyo and Moore Consultants (both consulting and laboratory services), to assist LEAs in Los Angeles, Orange, Sacramento, Humboldt, San Diego and Nevada counties in the investigation of high-priority former disposal sites. The contract funding was used to perform surveys, produce topographic drawings, obtain historical aerial photographs, install gas monitoring wells and continuous gas monitoring systems, perform geophysical and intrusive operations (drilling, trenching and direct-push) to define cap thickness and subsurface waste extents and characteristics for the purpose of defining and enforcing state minimum standards for former (pre-1989) disposal sites.

The following is a summary of work performed:

Duarte Golf Course. The Los Angeles County LEA requested assistance in investigating potential landfill gas migration from a former landfill (currently developed as a golf course) into residential areas in the City of Duarte. The CIA program obtained permission from the City to construct eight gas monitoring wells in city streets surrounding the golf course. Concentrations of landfill gas exceeding the lower explosive limit of 5 percent were detected through sampling and analysis activities in three of the eight gas monitoring wells. The CIA program has referred the site to the

Solid Waste Clean-up Program to investigate the condition of the gas control system and perform an engineering feasibility study to provide recommendations to the City of Duarte and the golf course owners (the current responsible parties) on potential remedial actions and costs to control off-site migration.

14th Avenue Lukenbill Warehouse. The Sacramento County LEA requested the assistance of the CIA program to monitor an enclosed warehouse structure located on the 14th Avenue Landfill in Sacramento (14th Avenue and Power Inn Road). CIA staff installed a continuous gas monitoring system which included six catalytic bead gas sensors, a controller, and data logger. The system was installed in October 2006 and has been operating for five consecutive months. The results of monitoring, which are downloaded via a modem on the data logger, indicate that levels of gas in the warehouse are exceeding 25 percent of the Lower Explosive Limit or 1.25 percent gas. The data has been provided to the LEA, which has been working with the owner (Mr. Gregg Lukenbill) to apply mitigation measures (roof vents, floor repairs, etc) to minimize landfill gas migration hazards.

Fortuna Dump. The Humboldt County LEA requested the assistance of the CIA program to investigate a former burn dump used by the City of Fortuna. The LEA was concerned about security, cover and grading conditions at the site. CIA program staff performed an office and field investigation which included a trenching investigation to determine the horizontal and vertical extents of the waste, the thickness of the cover, and the chemical and physical characteristics of the waste. The results of the investigation indicated that the dump had no cover system, and that erosion of the dump was occurring. Also the levels of lead at the site exceeded California Hazardous Waste thresholds. The CIWMB will continue to coordinate with the LEA on future activities, which may include involvement of the CIWMB's Solid Waste Clean-up Program.

Benton Dump. The San Diego County LEA requested assistance from the CIA program to investigate the condition of the Benton Burn Dump located adjacent to a residential subdivision in the City of Escondido. CIA staff performed an office and field investigation which included a geophysical and topographic survey and an intrusive investigation using a small tracked direct push rig. A total of 25 locations were explored based on the geophysical survey conducted. Waste samples were collected and analyzed. After the results are received a final report will be drafted and coordinated and the results and recommendations provided to the LEA for further action.

Truckee Dump. The Nevada County LEA requested assistance from the CIA program to investigate a former burn dump at the Truckee Regional Park near Lake Tahoe California. CIA staff developed and coordinated an investigation workplan and conducted a trenching investigation at the site to determine the approximate horizontal and vertical limits of exposed waste at the site. Historical information obtained from the Park District indicates that the former burn dump extends beneath developed portions of the park. These areas were not investigated (as they are covered and maintained and meet state minimum standards for closed disposal sites). A total of 20 trenches were excavated into the slope to define the limits and characteristics of waste. A final report and recommendations were prepared for the LEA. The results indicate that the waste contains levels of lead exceeding California Hazardous Waste thresholds. The Park District has contacted the Solid Waste Clean-up Program for potential assistance.

Emergency Response

Board staff serves on the Cal/EPA's Emergency Response Management Committee and participates in emergency response activities in concert with the Governor's Office of Emergency Services.

Summer Heat: In early July 2006, the San Joaquin Valley experienced a number of days of extremely high temperatures. In addition to public health concerns, the high temperatures caused a larger than normal number of dairy cattle, poultry, and other animal deaths. The intermittent operation of a key rendering plant in the valley (the normal method of disposal of animal deaths) created an emergency situation in the San Joaquin Valley. The emergency primarily affected the nine-county region of: Kern, Kings, Tulare, Fresno, Madera, Merced, Mariposa, Stanislaus, and San Joaquin.

CIWMB staff played a key role in response to and abatement of the emergency. Under the coordination of the Governor's Office of Emergency Services, and working in conjunction with the California Department of Food and Agriculture and the Central Valley Regional Water Quality Control Board, CIWMB staff delivered guidance to the agricultural community and local agencies on the management of animal mortalities on farms and ranches under a declared emergency. This guidance was used by dairyman, ranchers, feedlot operators, poultry farms and other confined animal facilities, as well as local public health, environmental health, emergency services, and solid waste management officials to make decisions on the best available and safest disposal methods.

Board staff also participated in a number of disaster preparedness exercises and conferences during 2005. These included the Golden Guardian 2005 in August, a national exercise simulating simultaneous terrorist attacks on both U.S. coasts, and an Avian Influenza conference in October.

Avian Influenza: In conjunction with staff from the Office of Environmental Health Hazard Assessment, CIWMB staff continued to represent Cal/EPA in a multi-agency effort to develop guidance for local government and the general public should the Avian Influenza virus be detected in wild or domestic birds within the State. Other agencies involved in the development of the guidance include the California Department of Food and Agriculture, the Department of Health Services, the Department of Fish and Game, the Department of Industrial Relations, and the U.S. Department of Food and Agriculture. The guidance is designed to include key public health messages associated with the virus and the response measures each the participating agencies will undertake. Cal/EPA's major role in the effort is to advise lead and support agencies on optimal treatment and disposal method options, and the proper use of approved disinfectants.

Local Enforcement Agency (LEA) Training, Health and Safety and Outreach

LEA/Operator Training and Outreach

The Board continued implementation of its expanded LEA and Operator Training and Outreach Program. During February the CIWMB sponsored a two-day symposium open to the public on landfill post closure land use. The discussion topics included legal issues, economic considerations, methane gas hazards, settlement, project design and approval requirements, liability analysis and public agency roles and responsibilities. Following the Board's 2005 direction to more systematically include operators in LEA training and outreach, staff also offered environmental field sampling training to LEAs, operators and staff during October and November. The Board for the first time formally included industry stakeholders when soliciting input as part of the annual needs assessment for the training program.

During 2006, the Board hosted over 700 attendees at 16 training venues including the 2006 LEA/CIWMB Conference. The annual solid waste conference provides an opportunity for CIWMB staff and LEAs to interact and exchange information. This year's successful conference invited waste tire grantees for the first time and included a Trade Faire; guided field trips to the Marina Landfill and Monterey Regional Wastewater-Treatment Plant, and the West Coast Rubber Recycling; and highlighted sessions including Enforcement and Abatement Strategies for Illegal Dumping, Disaster Planning and Preparedness, Waste Tire Processing and Recycling, and Landfill Post closure and Environmental Restoration.

Other training classes included A to Z Solid Waste Permit Process, Health and Safety Refreshers, Asbestos Hazard Awareness, Landfill Gas Monitoring Made Easy, Compliance First: Evaluation of Solid Waste State Facilities' State Standards, Using GIS in the LEA World, and Conducting Surveillance and Investigations for Illegal Tire Dumping. Over 400 LEAs, facility operators and Board staff attended these courses in 2006.

The Board-LEA partnership continued in 2006 with these collaborations: the LEA Roundtable Forums (held quarterly in five regions), the California Conference of Directors of Environmental Health regional and solid waste policy committee meetings, and the Enforcement Advisory Council bi-monthly meetings. All rank high in priority for Board staff participation and support.

Additionally, the Board manages the LEA Equipment Loan Program which provides a variety of services including loaning scientific equipment and instrumentation, calibration and maintenance of LEA-owned instrumentation, and technical assistance and training. Last year the program made available a “basic inspection kit” that provided the fundamental tools needed to support enforcement field activities. In 2006, Board staff began a reassessment of the program to determine the best use of funding. This assessment of LEA needs will be completed in early 2007. LEAs representing 33 counties borrowed equipment and instrumentation, and received maintenance and calibration of LEA-owned instruments. Board staff also provided one-on-one training to 15 LEA staff and occupational health and safety technical assistance for CIA site clean-ups.

Permitting and Enforcement

CIWMB as Enforcement Agency

Board staff serves as the enforcement agency in five local government jurisdictions: the counties of Santa Cruz, Stanislaus, and San Luis Obispo; and the cities of Berkeley and Stockton. The Board's Enforcement Agency Program now ranks with the top five local enforcement agency programs in the state. In 2006, staff conducted over 400 inspections at almost 50 permitted facilities and 41 closed sites in these five jurisdictions. A full discussion of the Board's role as enforcement agency was held at the Board's November 2003 meeting.

LEA Evaluations and LEA Enforcement Grants

As part of the three year cycle of LEA evaluations (see Local Enforcement Agency Evaluation Home Page), the Board completed 10 LEA evaluations during 2006. The following summary details the 10 completed LEA evaluations and their outcomes as of Dec. 31, 2006:

- Two LEAs were found to be fulfilling their duties and responsibilities
- One LEA was found to be fulfilling most of its duties and responsibilities
- Seven LEAs were found to be not fulfilling all their duties and responsibilities; all seven required a work plan in order to address CIWMB evaluation findings

As of December 2006, the Board recorded the status of the following LEA evaluation work plans:

- Completed Work plans—five LEAs completed their work plans in 2006
- In-Progress Work plans—four LEAs were working toward meeting the task compliance dates established in their work plans
- Under Development—three LEAs were developing their work plans as a result of their evaluation

In addition to program performance, several LEAs underwent restructuring or reorganization within their local government structure and may require Board action to approve changes in designations and subsequently the certifications.

As part of the Board's role in overseeing LEA performance, Board staff found one LEA jurisdiction had not taken enforcement for closing one of its facilities pursuant to regulatory requirements. The Board continued its efforts and, as of December, the LEA made substantial progress toward the receipt of a closure plan. Should the LEA's compliance efforts with closure requirements fail, the Board is poised to take its own enforcement action regarding this facility pursuant to regulations, and concurrently address related LEA performance issues through further action.

In addition to evaluating LEA programs, the Board awards \$1.5 million annually in non-competitive grant funds from its Integrated Waste Management Account as LEA Grants in compliance with statute. Common LEA uses for the grant money include equipment (vehicles, gas monitors, video and digital

cameras, and computers), training, consultants, personnel costs, and laboratory services. Approximately 56 jurisdictions received funding in 2006.

Solid Waste Facility Permits

The Board concurred in the issuance of the following major permit revisions:

- SANCO Resource Recovery (San Diego County)—Jan. 17, 2006
- Sun Valley Paper Stock MRF and TS (City of Los Angeles)—Feb. 14, 2006
- Kochergen Farms Composting (Kings County)—April 11, 2006
- Zanker Road Resource Recovery Operations and Landfill (Santa Clara County)—May 16, 2006
- Chemical Waste Management Inc. Kettleman Hill Facility (Kings County)—July 18, 2006
- Victorville Sanitary Landfill (San Bernardino County)—July 18, 2006
- Looney Bins/East Valley Diversion (City of Los Angeles)—Sept. 12, 2006
- Athens Services (Los Angeles County)—Nov. 15, 2006
- Greenwaste Recovery Facility (Santa Clara County)—Nov. 15, 2006
- City of Clovis Landfill (Fresno County)—Dec. 7, 2006
- Potrero Hills Landfill (Solano county)—Dec. 7, 2006

Post-Closure Maintenance/Financial Assurances

Financial Assurance Demonstrations for Postclosure Maintenance (PCM) activities at solid waste landfills are required only for the first 30 years after closure, while actual PCM activities are likely to be required for a longer period, i.e., while the buried waste continues to pose a threat. In addition, current cost estimates for PCM do not cover long-term repair or replacement of environmental control systems (e.g. landfill gas control), nor do they cover corrective actions for reasonably foreseeable but unpredictable catastrophic events (e.g., earthquake, flood etc.). This issue has attracted attention for years, but has yet to be resolved.

The Board held workshops and working group meetings on this issue in November 2003, December 2004, August 2005, and October 2005. In July 2006, the Board provided direction to staff to begin a rulemaking on these long-term issues and also to revise existing financial assurance and cost estimate requirements based on experiences from the BKK landfill and other situations. It also directed staff to conduct a study on options for financial assurance mechanisms to address long-term corrective action needs. AB 2296, signed by the Governor in October 2006, further defined Board responsibilities in this area. This legislation requires the Board to: 1) adopt regulations that provide for an increase in the initial closure and postclosure maintenance cost estimates to account for cost overruns due to unforeseeable circumstances; provide a reasonable contingency; and include replacement and repair costs for longer lived items including, but not limited to, repair of environmental control systems; 2) conduct a study by January 1, 2008, to define the conditions that potentially affect solid waste landfills in order to identify potential long-term threats; and to evaluate financial assurance mechanisms that would protect the state from long-term postclosure maintenance or corrective action costs if a landfill owner or operator fails to meet its legal obligation to fund postclosure maintenance or corrective action during the postclosure period; and 3) adopt regulations and develop recommendations for needed legislation to implement the findings of the study on or before July 1, 2009.

At its November 2006 meeting, the Board approved the scope of work concept for a Request for Proposal (RFP) for the study required by AB 2296. This RFP was to be finalized and released in February 2007, with award of the study contract anticipated in April 2007. The Board also anticipates beginning the first rulemaking required under AB 2296 in spring 2007.

Completed Rulemakings

AB 1497 Permit Implementation Regulations: AB 1497 was enacted in January 2004. The law mandated several new solid waste facility permitting requirements and authorized the Board to adopt regulations to implement these requirements. During 2005 and 2006, staff conducted an extensive, year-long informal rulemaking process to solicit input from stakeholders in the scoping and drafting of the proposed regulations. The formal rulemaking process began in April 2006. The final regulations were adopted by the Board at the Oct. 17, 2006, meeting. The Board submitted the final rulemaking file to the Office of Administrative Law in early 2007. If approved, the regulations will be effective early spring of 2007. The regulations will implement the following:

- Require additional public noticing for Report for Facility Information amendments, Modified Permit Applications, Revised and New Permit Applications.
- Require a public informational meeting be held for new and revised full permits, unless a substitute meeting was held and met the criteria for substitute meeting and the operator doesn't object to the use of a substitute meeting.
- Establish a "Decision Tree" for Enforcement Agencies to use in determining if a proposed change in the design or operation of a facility by the operator can be approved through an RFI amendment, modified permit, or revised permit.
- Establish a "Minor Change" process that allows operators to make a minor change in the design or operation of the facility without Enforcement Agency review if the change meets specified criteria, and the change is on the minor change list, or if not listed, meets the criteria. The operator must provide notice to the LEA within 30 days.
- Establish a "Significant Change List"; any change on the list must go through the permit revision process.
- Require the EA to notify all facility operators when they must apply for a five-year review of the permit.
- Establish a new requirement that operators include with the permit application a list of all public notices and meetings conducted relative to the permit application.

Waste Tires and Special Waste

Tracy Tire Fire Site (TTFS)

On Aug. 7, 1998, illegally stored tires at the TTFS were ignited. More than seven million tires burned during the initial blaze. Based on conditions at the site, a unified command team, which consisted of representatives from the U.S. Environmental Protection Agency (USEPA), City of Tracy, Regional Water Quality Control Board (RWQCB), Department of Toxic Substances Control (DTSC), Office of Emergency Services, Air Resources Board, San Joaquin County, and the Board, elected to let the fire burn itself out before beginning site characterization and remediation efforts for the following reasons: 1) the local geology indicated the TTFS was underlain with a thick clay layer that would contain the pyrolytic oil generated from the tire fire; and 2) it appeared, at the time, that the majority of tires had already been consumed by the fire and the remaining tire fire would likely burn itself out over a short period of time. However, after burning intensely for two months, the fire subsided but continued to smolder for more than two and a half years. In December 2001, the Board, its Contractor, Sukut Construction, Inc., and the Tracy Fire Department extinguished the remnants of the fire to abate the air emissions and to allow for site characterization and remediation.

On Sept. 21, 2006, the property was sold at a public tax-lien auction. As a result of this sale, the Board no longer manages the property or performs groundwater sampling or evaluation activities. These responsibilities have been transferred to the new property owner.